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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,888

08/25/2003

Tadashi Ichida

SIC-03-029

1887

29863

7590

12/02/2004

DELAND LAW OFFICE

P.O. BOX 69

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EXAMINER

WHITTINGTON, KENNETH


ART UNIT

PAPER NUMBER

2862

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/604,888	Applicant(s) ICHIDA ET AL.	
	Examiner Kenneth J Whittington	Art Unit 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/25/03 + 1/30/04</u> . | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the sensor being mounted onto the front or back fork or chainstay as recited in claim 21 and the bicycle part being a wheel hub as recited in claim 22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior

version of the sheet, even if only one figure is being amended.

The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be

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labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-10, 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Uyeda et al. (US 4,521,731). Regarding claim 1, Uyeda et al. discloses a speed sensor comprising a casing member comprising a generally annular body structured to be mounted to the bicycle wheel so that the annular body is incapable of relative movement to the wheel, the annular body including a plurality of circumferentially disposed exposed magnet mounting portions that are concentric with

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respect to the rotational axis (See FIGS. 1, 2, 5 and 6, item 1b, note annular shaped portion and recess for magnets); and

a cover member detachably mounted to the annular body for blocking the plurality of magnet mounting portions (See FIGS. 1, 2, 5 and 6, item 1a, note cover portion affixed to annular portion shown in FIG. 2).

Regarding claim 2, Uyeda et al. discloses magnets mounted in the plurality of magnet mounting portions (See FIGS. 1, 4 and 6, items 3).

Regarding claim 3, Uyeda et al. discloses the cover member rotating together with the annular body (See FIGS. 1, 2, 4, 5 and 6, item 1a).

Regarding claim 4, Uyeda et al. discloses the casing member being made from nonmagnetic material (See col. 1, lines 55-58).

~~Regarding claim 5, Uyeda et al. discloses the casing member~~
being made from a synthetic resin (See col. 1, lines 55-58).

Regarding claim 6, Uyeda et al. discloses the cover completely covering the plurality of magnet mounting portions (See FIGS. 4 and 6, note items 1a, 1b and 3).

Regarding claims 7 and 8, Uyeda et al. discloses the annular body constructed to be securely fixed to the wheel so that it is incapable of rotating relative or axially moving

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relative to the wheel (See FIGS. 1 and 5, annular body mounted to wheel).

Regarding claim 9, Uyeda et al. discloses the annular body being bolted to the bicycle part (See FIG. 5).

Regarding claim 10, Uyeda et al. discloses the cover member latched to the annular body (See FIG. 2).

Regarding claim 20, Uyeda et al. discloses a magnetic sensor mounted onto the bicycle (See FIGS. 1, 2 and 8, item 5).

Regarding claim 21, Uyeda et al. discloses the sensor mounted onto the front fork (See FIG. 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

~~Office action:~~

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shikimori et al. (US 5,560,266) in view of Uyeda et al. Regarding claim 1, Shikimori et al. teaches a rotation sensor comprising

a casing member comprising a generally annular body structured to be mounted to the crank set so that the annular body is incapable of relative movement to the wheel (See Shikimori et al. FIGS. 1-3, item 8), the annular body including a plurality of circumferentially disposed exposed magnet mounting portions that are concentric with respect to the rotational axis (See FIGS. 1, 2 and 3, note recesses in item 8 for magnets 23 and 24).

However, Shikimori et al. does not explicitly teach a cover member. Uyeda et al. teaches a cover member mounted to an annular body adjacent the magnet mounting portions (See Uyeda et al. FIGS. 1, 2, 5 and 6, item 1a, note cover portion affixed to annular portion shown in FIG. 2). It would have been obvious to use the cover member as shown in Uyeda et al. in the rotation sensor of Shikimori et al. One having ordinary skill in the art would have been motivated to do so because it is well known in

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the art to embed or surround a magnet with a non-magnetic synthetic base (See Uyeda et al. FIG. 6, items, 1a, 1b and 3; and see Tsuyama US 4,633,216 FIG. 1, items 6 and 7) in order to protect the magnet from damage and other environmental factors. One also would have been motivated to do so to prevent the magnets or magnetic assemblies mounted therein, from being removed from the magnet recesses in the annular body (See Caillaut et al. US 5,530,344, at col. 4, lines 25-31).

Regarding claim 11, Shikimori et al. teaches the casing member being mounted directly to a crank arm (See Shikimori et al. FIGS. 2 and 3, items 2, 4, 5 and 8).

Regarding claim 12, Shikimori et al. teaches the casing member bolted directly to the axle mounting boss of the crank arm (See Shikimori et al. FIGS. 2 and 3, items 2, 4, 5 and 8).

Regarding claim 13, ~~Shikimori et al. teaches the casing~~
member directly bolted to the crank arm (See Shikimori et al. FIGS. 2 and 3, note items 7).

Regarding claim 14, Shikimori et al. teaches the annular body comprising a tube portion mounted on the axle mounting boss of the crank arm (See Shikimori et al. FIGS. 2 and 3, item 10) and a ring portion mounted around the end face of the axle mounting boss (See FIGS. 2 and 3, item 9).

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Regarding claim 15, Shikimori et al. teaches the ring portion having a plurality of holes for the bolts to pass (See Shikimori et al. FIGS. 2 and 3, note holes for bolts 7).

Regarding claim 16, Shikimori et al. teaches a stopper member for fixing the annular body to the crank arm (See Shikimori et al. FIGS. 2 and 3, note step on axle mounting boss on crank arm part item 4 stopping movement of annular body in conjunction with item 7).

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uyeda et al. in view of Fukuda (US 6,162,140). Uyeda et al. teaches each and every limitation of claims 1, 20 and 21 as discussed above. However, Uyeda et al. fails to disclose the bicycle part being a wheel hub. Fukuda teaches of mounting a rotational speed sensor onto a wheel hub (See Fukuda FIGS. 7 and 8, annular member 300 on hub 320). It would have been obvious to mount the annular member as taught by Uyeda et al. on a hub as taught by Fukuda. One having ordinary skill in the art would have been motivated to do so to provide information about the rotation state of the sprockets also mounted on the hub assembly to determine if and when to shift gears (See Fukuda col. 4, lines 50-65).

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Allowable Subject Matter

8. Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reason for the indication of allowable subject matter is that while the prior art generally shows various designs for rotational sensors on bicycles, the applied prior art fails to show a stopper member fitting radially inwardly of the annular body as recited in claim 17. The remaining claims depend from claim 17.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oda et al. (JP 56-004055) and Matsumoto et al. (JP 57-070461) each disclose designs for wheel mounted rotational sensors having the sensor embedded in a casing. Nishimoto (US 6,380,731) and Fukuda (US 2001/10011809) each disclose a hub assembly with a rotation sensor incorporated therein. Young (US 5,067,597) and Message et al. (US 5,873,658) each disclose bearing assemblies having rotation sensors incorporated therein.

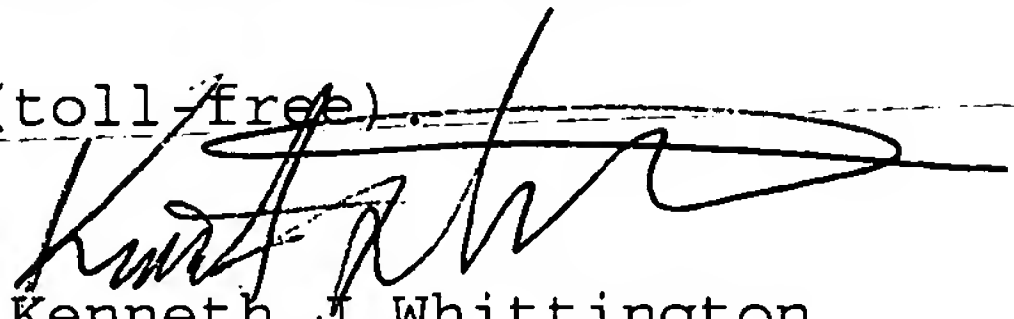
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J Whittington whose telephone number is (571) 272-2264. The

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examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth J Whittington
Examiner
Art Unit 2862

kjw



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